(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 1 December 2005 (01.12.2005)

PCT

(10) International Publication Number WO 2005/114100 A1

(51) International Patent Classification⁷: G01B 11/16, G06T 7/00

(21) International Application Number:

PCT/US2004/014705

(22) International Filing Date: 12 May 2004 (12.05.2004)

(25) Filing Language: English

(26) Publication Language: English

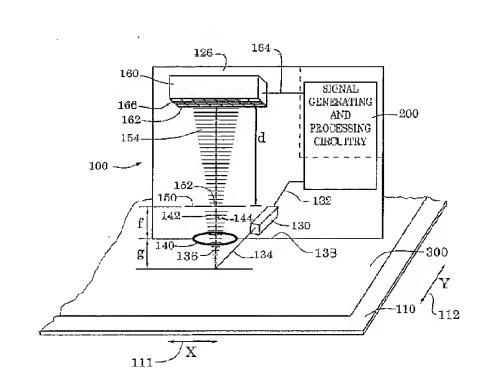
- (71) Applicant (for all designated States except US): MITU-TOYO CORPORATION [JP/JP]; 20-1, Sakado 1-chome, Takatsu-ku, Kawasaki, Kanagawa 213-0012 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): EMTMAN, Casey, Edward [US/US]; 4930 239th St SE, Woodinville, WA 98072 (US). PATZWALD, Andrew, Michael [US/US]; 12604 104th Ave NE, Kirkland, WA 98034 (US). JONES,

Benjamin, Keith [US/US]; 6811 29th Ave NE, Seattle, WA 98115 (US).

- (74) Agent: ARMSTRONG, Joel, S.; c/o Oliff & Berridge PLC, Suite 500, 277 South Washington Street, Alexandria, VA 22314 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

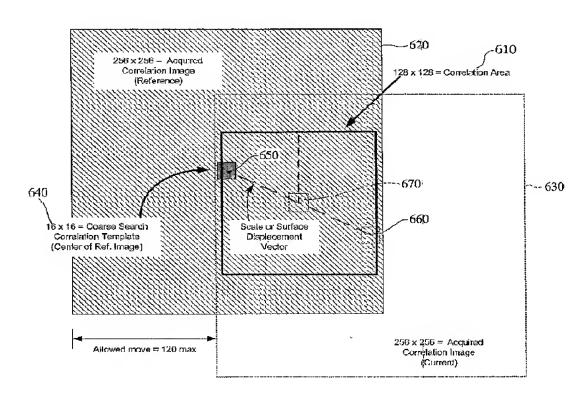
[Continued on next page]

(54) Title: DISPLACEMENT TRANSDUCER WITH SELECTABLE DETECTOR AREA



(57) Abstract: A displacement measurement device has a detector area which is larger than the area of the beam spot reflected from the measurement surface. The detector area is made larger than the size of the beam spot on the detector area, in order to accommodate shifts in the location of the beam spot due to changes in the precise locations of the components of the displacement measurement device. The subset of pixels in the detector area having advantageous correlation characteristics, is then selected to perform the correlation calculation, thereby reducing data processing time requirements.





WO 2005/114100 A1

WO 2005/114100 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.